UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
MIDLAND/ODESSA DIVISION

INTELLECTUAL VENTURES I LLC and INTELLECTUAL VENTURES II LLC,	**Civil Action No. 7:24-cv-00277-ADA**
Plaintiffs,	
v.	**JURY TRIAL DEMANDED**
SOUTHWEST AIRLINES CO.,	
Defendant.	

PLAINTIFFS' OPPOSITION TO DEFENDANT'S
RULE 12(b)(6) MOTION TO DISMISS

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I.   INTRODUCTION

The Court should reject Southwest's Motion. *First*, the '844 Patent and '582 Patent asserted in IV's complaint are valid under 35 U.S.C. § 101. The asserted claims do not run afoul of *Alice*. They are not directed to an abstract idea and recite an inventive concept. Southwest's arguments are unpersuasive and are insufficient at the pleading stage. *Second*, IV's direct infringement contentions are supported by plausible, sufficient factual allegations based on public information that more than satisfy the pleading requirements. Southwest's arguments otherwise fail because: (i) IV has identified non-authorized uses of the asserted cloud patents; (ii) IV has more than adequately defined the accused Southwest products and services that IV contends directly infringe; and (iii) Southwest's premature claim construction for the '844 Patent should be rejected. *Third*, IV's indirect infringement contentions are likewise supported by plausible factual allegations and sufficiently identify third parties and third-party uses of the accused products to satisfy its burden at the pleading stage. Accordingly, Southwest's motion should be rejected in its entirety.

II.   BACKGROUND

On November 2, 2024, Plaintiffs Intellectual Ventures I LLC and Intellectual Ventures II LLC (collectively, "IV") filed its Complaint against Defendant Southwest Airlines Co. ("Southwest") alleging infringement of six patents. *See generally* Dkt. 1. Two of the six patents-in-suit are not at issue in Southwest's Motion. The other four patents, *i.e.*, U.S. Patent Nos. 8,332,844 ("'844 Patent"); 8,407,722 ("'722 Patent"); 7,949,785 ("'785 Patent"); and 7,257,582 ("'582 Patent") (collectively, "Cloud Patents"), relate generally to cloud technologies.

On January 27, 2025, Southwest filed its Motion to Dismiss ("Motion"), alleging that the '844 Patent and the '582 Patent recite unpatentable subject matter under 35 U.S.C. § 101 and that IV's direct and indirect infringement claims for the Cloud Patents are implausible. Mot. at 2-19. As described below, each of Southwest's arguments fail for multiple reasons.

III.   **ARGUMENT**

    A.   **The '844 Patent Is Valid Under 35 U.S.C. § 101.**

As described below, the '844 Patent recites patentable subject matter under § 101 because the asserted claims are not directed to an abstract idea and contain an inventive concept. Alternatively, at a minimum, there are plausible factual disputes that defeat Southwest's motion. *See Cooperative Ent., Inc. v. Kollective Tech., Inc.*, 50 F.4th 127, 130 (Fed. Cir. 2022) ("[P]atent eligibility may be resolved at the Rule 12 stage only if there are no plausible factual disputes after drawing all reasonable inferences from the intrinsic and Rule 12 record in favor of the non-movant.").

        1.   **The '844 Patent Is Not Abstract.**

The '844 Patent claims an invention that provides concrete benefits to the functioning of distributed computer systems, such as a server grid, by using common "root images" for multiple compute nodes along with distinct "leaf images" for specific computing nodes, where the data blocks of the specific compute nodes differ from the root image data blocks. Dkt. 1-1 ('844 Patent) at 2:37-48. The invention further calls for the caching of portions of root images that have been accessed by at least one compute node. *Id.*

Claim 7 recites as follows:

> 7. A method for providing data to a plurality of compute nodes, comprising:
>
> > storing blocks of a root image of said compute nodes on a first storage unit;
> >
> > storing leaf images for respective compute nodes on respective second storage units, said leaf images including only additional data blocks not previously contained in said root image and changes made by respective compute nodes to the blocks of the root image, wherein said leaf images of respective compute nodes do not include blocks of said root image that are unchanged by respective compute nodes; and

> caching blocks of said root image that have been accessed by at
> least one of said compute nodes in a cache memory.

A "root image" as used in the '844 Patent is a "read-only base image" of the application environment for the compute nodes. *Id*. at 2:13-14. Figure 3A provides a visual representation of an embodiment of the claimed invention:
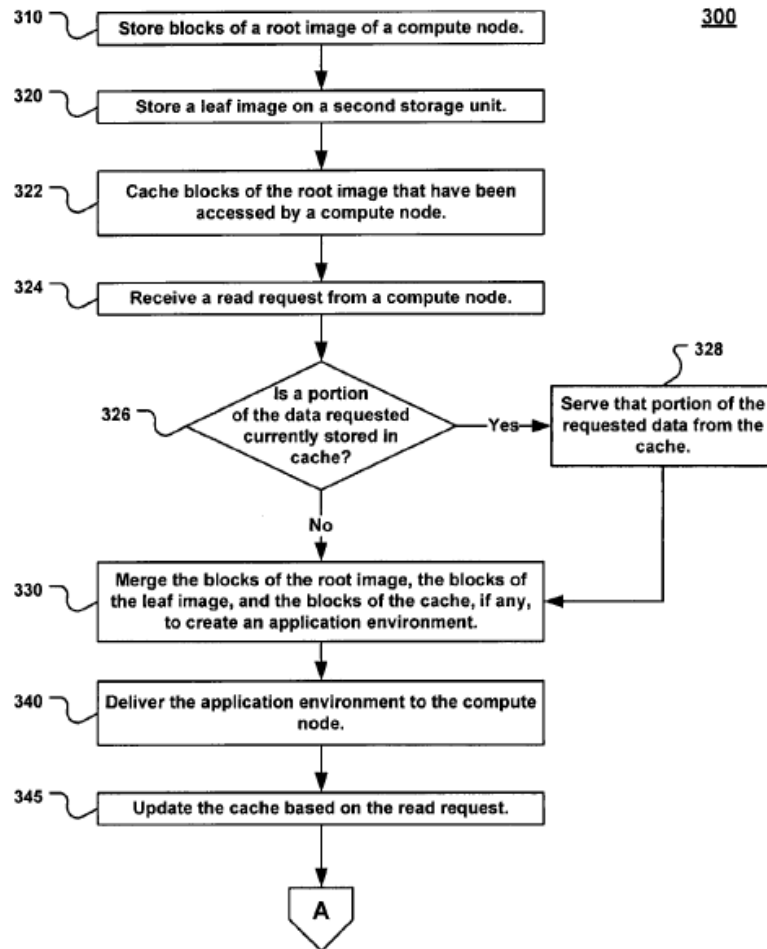
FIG. 3A

As shown, data blocks of a root image and leaf images are stored on separate storage devices, with previously accessed root image data blocks being stored in a cache. The caching of these blocks "improve[s] the access time for subsequent compute nodes requesting the access the same blocks of data." *Id.* at 8:1-4. When a compute node sends a read request, it will either receive data from

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the cache or from a storage unit. *Id.* at 8:5-12. If the compute node accesses data not previously

cached, the cache will be updated to include that data. *Id.* at 8:32-35.

The specification clearly describes that the claimed invention provided a concrete

improvement over prior cluster computing methods. For example, it describes how the creation of

"a boot image on the fly involves copying the entire contents of the master image," which "will

result in a large bring-up time" for a compute node. *Id.* at 1:54-58. Another option, pre-creating

boot images for each server in a computing cluster, has improved bring-up time, but "since one

often does not know in advance how many servers will ever be booted, this scheme may result in

wasted disk space." *Id.* at 1:59-63. And using either of these methods, updating copies of the boot

image across the compute nodes "is cumbersome, as it means updating a number of copies of the

boot image." *Id.* at 1:64-67. Once booted, there are further inefficiencies in prior methods, resulting

in redundancies in the operations of the compute nodes and wasted CPU resources, disk space, and

bandwidth. *Id.* at 2:1-12.

The invention, as recited in claim 7, solves these prior art problems by providing a "specific

improvement to the way computers operate," embodied in the root-leaf system of application

environment storage. *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016)

(finding patentable a patent designed to "improve the way a computer stores and retrieves data in

memory"). As the specification describes, contrary to prior implementations, the claimed invention

allows for updating a boot image "on the fly" without the delays that would normally result:

> By utilizing a root-leaf system of application environment storage,
> embodiments of the present disclosure allow creation of boot images
> on the fly without significantly diminishing bring-up time. This is
> due to the fact that creating a new boot image does not require
> copying the contents of the root image. . . . Bring up time, and access
> time in general, can be further improved by caching commonly
> accessed the portions of the root image. Moreover, updating the boot
> image for the entire cluster simply involves updating the root image.

> Additionally, because of the commonality of the root image and the fact that its contents are not directly changed, certain operations performed on the root image (e.g., indexing) only need to be performed once by one compute node. Thereafter, the results of that operation can be shared with the other compute nodes in the cluster, thus saving the other compute nodes valuable time and resources.

Dkt. 1-1 at 2:49-3:2. These improvements are directly tied to the claim limitations: the invention of claim 7, for example, resolves prior art problems by storing a single root image, and only storing leaf images of data not contained in the root image, as well as caching portions of the root image. *Id.* at cl. 7.

Southwest attempts to oversimplify the claimed invention by describing it as directed to the "abstract idea of organizing and storing information using a 'root-leaf' structure." This is the exact oversimplification the Federal Circuit has repeatedly rejected. *See Contour IP Holding, LLC v. GoPro, Inc.,* 113 F.4th 1373, 1379-80 (Fed. Cir. 2024) (criticizing abstract idea argument that described claims at high level and ignored claim limitations); *TLI Commc'ns LLC v. AV Auto., L.L.C. (In re TLI Commc'ns LLC Patent Litig.),* 823 F.3d 607, 611 (Fed. Cir. 2016) (same). Indeed, the patent shows that the invention is not just the "root-leaf" structure, but also the use of root image caching and indexing for distributed application management. Dkt. 1-1 at 2:35-39. Further, the cases upon which Southwest relies are readily distinguishable. *See Intell. Ventures I LLC v. Erie Indem. Co.,* 850 F.3d 1315, 1327 (Fed. Cir. 2017) (claims were not directed to improvement in computer function, but rather simply the use of an index for performing search); *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (no improvement claimed); *Kaavo Inc. v. Amazon.com Inc.,* 323 F. Supp. 3d 630, 639 (D. Del. 2018) ("nothing in the specification explains that the claimed invention is an improved cloud computing system as compared to cloud computing systems already existing in the prior art," unlike the '844 Patent specification); *Versata Software, Inc. v. NetBrain Techs., Inc.,* No. 13-676-

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LPS-CJB, 2015 WL 5768938, at *7 (D. Del. Sept. 30, 2015) (hierarchical representation of information claimed not analogous to '844 Patent's specific implementation of system of application environment storage that provides technical improvement over prior art).

The invention of the '844 Patent is instead more akin to that involved in *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253, 1259 (Fed. Cir. 2017). In *Visual Memory*, the Federal Circuit held that an improved memory system that "obviate[d] the need to design a separate memory system for each type of processor, which proved to be costly and inefficient, and, at the same time, avoid[ed] the performance problems of prior art memory systems" was patent-eligible. *Id.* So too, here, the '844 Patent invention, a one-size-fits-all solution for cluster computing using the root-leaf system with a cache for repeatedly requested data, avoids the problems of prior art solutions. Accordingly, the '844 Patent claims are *not* directed to an abstract idea and Southwest's motion should be denied as to the '844 Patent.

2.   The '844 Patent Claims Inventive Concepts.

This Court need not reach step 2 of the *Alice* test given that the '844 Patent is not directed to an abstract idea. Regardless, the '844 Patent claims inventive concepts that would make them patent-eligible under step two, even if Southwest had met its burden under step one.

The asserted claims of the '844 Patent are directed to an inventive concept that improves distributed computer systems, such as a server grid, by using root images for multiple compute nodes and distinct leaf images for specific computing nodes, where the data blocks of the specific compute nodes differ from the root image data blocks and where the root image is partially cached. Dkt. 1-1 ('844 Patent) at 2:37-48. This inventive concept is captured by, for example, claim 7, which reflects improvements described in the specification and carried out by the limitations of the claims in and of themselves, rendering the '844 Patent asserted claims eligible under step two. *See supra*, Section III.A.1; *see also See CosmoKey Sols. GmbH & Co. KG v. Duo Sec. LLC,* 15

F.4th 1091, 1098-1099 (Fed. Cir. 2021) ("[S]pecification descriptions of how the claim limitations provide a technical improvement over conventional means will render a claim eligible at step two, just like at step one.").

Further, the claims of the '844 Patent are analogous to those found to contain an inventive concept in similar cases. For example, in *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, the Federal Circuit expressly noted that even though the claim contained "conventional components," it nevertheless "involves limitations that when considered individually and as an ordered combination recite an inventive concept through the system's distributed architecture." 841 F.3d 1288, 1302 (Fed. Cir. 2016). The '844 claims also, to the extent they use "standard" methods, recite an inventive concept of using a root-leaf structure and block-level distributed application management.[1]

Additionally, the specific improvements that result from this inventive concept are almost directly equivalent to those that prohibited dismissal at the motion to dismiss stage in *Berkheimer v. HP Inc.* There, the court explained that an "inventive feature that stores parsed data in a purportedly unconventional manner" and the resulting benefits of the elimination of redundancies and storage requirements, improvements in system efficiency, and the ability to propagate a single edit throughout multiple documents presented a factual dispute concerning whether the invention

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[1] Southwest asserts that the claimed methods are standard, pointing to sections of the specification. But it is notable that Southwest directs the Court to the background section of the specification, Dkt. 1-1 ('844 Patent) at 2:14-21, which describes a prior art method upon which the claimed invention improves. Mot. at 5. And none of Southwest's citations capture the claimed invention, including the root-leaf structure, caching, and block-level operation. *See supra* at Sections III.A.1, III.A.2.

was routine and conventional.[2] 881 F.3d 1360, 1369 (Fed. Cir. 2018) . Those benefits are similarly present here.

In short, Southwest's arguments are insufficient to merit dismissal under Section 101.[3] *See Ravgen, Inc. v. Natera, Inc.,* No. 1:20-CV-00692-ADA, 2024 WL 150960, at *2 (W.D. Tex. 2024) ("[A]side from attorney argument, [Defendant] does not cite any evidence that the combination of the claimed elements was routine and conventional."). Southwest's arguments regarding the "conventional" nature of the limitations or the ordered combination of the claims suggest, at most, a fact dispute that cannot be resolved on the pleadings. *See Aatrix Software, Inc. v. Green Shades Software, Inc.,* 882 F.3d 1121, 1127 (Fed. Cir. 2018) ("Whether the claim elements or the claimed combination are well-understood, routine, conventional is a question of fact. … that question cannot be answered adversely to the patentee based on the sources properly considered on a motion to dismiss, such as the complaint, the patent, and materials subject to judicial notice."); *Coop. Ent., Inc. v. Kollective Tech., Inc.,* 50 F.4th 127, 133 (Fed. Cir. 2022) ("[d]etermining whether the [invention] is well-understood, routine, or conventional is a question of fact that cannot be resolved at the Rule 12(b)(6) stage.").

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[2] Southwest's reliance on *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass'n*, 776 F.3d 1343 (Fed. Cir. 2014) is misplaced. Mot. at 6. There, the claim was directed to nothing more than the "use of a generic scanner and computer to perform well-understood, routine, and conventional activities commonly used in industry." *Id.* at 1348. No improvement or benefit over the prior art was asserted. And the claims in *Intell. Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1315 (Fed. Cir. 2016) were directed to the simple filtering of emails, an electronic "post office," and detecting a virus in computer data. None provided any improvements to computer function aside from doing something with a computer that had previously been done without one. Here, in contrast, the '844 Patent claims provide a concrete technical improvement over prior art systems for cluster computing.

[3] To the extent Southwest argues that the claimed steps fail to explain "how the[] tasks [of the claimed steps] are performed," Mot. at 5, "whether a patent specification teaches an ordinarily skilled artisan how to implement the claimed invention presents an enablement issue under 35 U.S.C. § 112, not an eligibility issue." *Visual Memory*, 867 F.3d at 1261.

B.   **The '582 Patent Is Valid Under 35 U.S.C. § 101.**

The '582 Patent recites patentable subject matter under § 101 because its claims are not directed to an abstract idea, and further because it recites an inventive concept. Moreover, there are plausible factual disputes that defeat Southwest's Motion. *See Berkheimer, supra*.

1.   The '582 Patent Is Not Abstract

The claims of the '582 Patent are directed to a method for parallelization of data processing tasks, improving on then-current technology by increasing the speed of execution of processes and balancing the loads of computer resources during execution.

Specifically, independent claim 1 recites:

> 1. A method of effecting on a preexisting input file a computer-executable process comprised of a plurality of subtasks, the method comprising the steps of:
>
> (a) automatically determining file allocation and logically subdividing records of said input file into a plurality of partitions;
>
> (b) distributing descriptions of all of said partitions to each of a plurality of subtask processors
>
> (c) simultaneously executing at least a respective one of the subtasks of the computer-executable process in each of at least some of said processors on a respective one of the partitions with each subtask reading and processing the respective partition so as to process the respective partition and produce respective subtask output and;
>
> (d) thereafter repeating step (c) in at least some of the subtask processors each with another unprocessed partition on a first-come/first-served basis; and
>
> (e) generating at least one output combining all of the subtask outputs and reflecting the processing of all of said subtasks.

The claim is directed to an improvement in data processing through the use of parallelization, *i.e.,* using multiple computers or computing resources to perform a given task. A key aspect of this parallelization is the load balancing of tasks and data among the available resources, as the specification shows:

> [I]n contemporary environments, much can be gained by the parallelization of some processes and their distributed execution across all available computing resources in a way that both speeds the execution of the whole process and balances the load the various computers are subjected to.

Dkt. 1-6 ('582 Patent) at 1:33-38. Further, the specification explains that the invention of the '582 Patent allows for the use of multiple computers, including "heterogeneous" computers, to optimize execution of processes:

> The principal object of the present invention is to enable the decomposition of a certain type of linear processes that currently use a single computer, into equivalent parallel processes that can efficiently use any number of potentially heterogeneous computers, taking the available capacity of each of these computers into account while optimizing execution. A more general object is to improve processing efficiency of certain processes. It is also an object to obtain better processor utilization.

Id. at 1:48-57. These technical techniques disclosed in the '582 Patent specification and captured by the claims (including claim 1) provide benefits to technical environments. *See id.* at 2:30-38 (describing improvements to software processes because of processing parallelization including "a sort process, a statistical analysis process, a report creating process or a database query or a combination thereof."). Thus, the claims of the '582 Patent recite a specific technological solution to problems unique in computer processing. *See Enfish,* 822 F.3d at 1337 ("our conclusion … is bolstered by the specification's teachings that the claimed invention achieves other benefits over conventional [technology]"); *Intell. II, LLC v. FedEx Corp.*, No. 2:16-CV-00980-JRG, 2018 WL 7823098, at *4 (E.D. Tex. May 10, 2018) ("specific technologic modifications to solve a problem or improve the functioning of a known system generally produce [non-abstract] patent-eligible subject matter."). The file history of the '582 Patent, as Southwest acknowledges, also notes the distinct improvements provided by the claimed invention: "in addition to eliminated the control process [to distribute loads between processors] it also eliminates the need to collect and maintain

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load information, which is very difficult to do and almost impossible to define so as to anticipate all possible processors that might execute the subtask."[4] Southwest Ex. A at 2-3.

Southwest rests its argument primarily on the facially incorrect assertion that the claim "does not improve computer technology or solve a specific technical problem." Mot. at 9. But the improvement claimed by the '582 Patent is plain on its face. *See supra* at Section III.B.1; *see also infra* Section III.B.2. Nor does the primary case cited by Southwest provide any basis to find the '582 Patent patent-ineligible. In *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329, 1338 (Fed. Cir. 2017), the court stated expressly that the patentee's proposed claim constructions failed to "indicate how the claims are directed to a scalable network architecture that itself leads to an improvement in the functioning of the system." In other words, even applying the patentee's proposed claim construction, the patent claims in that case simply were not directed to an improvement in function. That is not the case here, where the claim is directed to a specific way of improving the functioning of distributed execution of computer processes. *See* Dkt. 1-6 at 1:48-57.

The claims of the '582 Patent are better analogized to those which the Federal Circuit and other district courts have found patent eligible. For example, in *SRI Int'l Inc. v. Cisco Sys., Inc.*, 930 F.3d 1295, 1303-04 (Fed. Cir. 2020), the Federal Circuit found patent-eligible claims that modified "the normal, expected operation of a conventional computer network." Similarly, in *Altair Logix LLC v. Netgear, Inc.*, No. CV 20-1004-MN-CJB, 2021 WL 6424910 (D. Del. Dec. 6, 2021), the court found that a patent that described "particular components that are configured in a

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[4] Southwest's attempt to use the file history to show that the '582 Patent is solely directed to the "first available" assignment technique (Mot. at 7) fails. Southwest conflates novelty and obviousness with patent eligibility. But, as the Federal Circuit has stated, "the novelty or nonobviousness of the invention has little to no bearing on the question of what the claims are 'directed to.'" *CardioNet, LLC v. InfoBionic, Inc*, 955 F.3d 1358, 1372 (Fed. Cir. 2020).

particular way" was patent eligible because it "improve[d] the way computers work." *Id*. at *6.

Notably, the patent there required multiple processing units working together to provide the

benefits of "remov[ing] redundancy and reduc[ing] cost."[5] *Id.* at *4.

Accordingly, the '582 Patent claims are *not* directed to an abstract idea and Southwest's

motion should be denied as to the '582 Patent.

2.   The '582 Patent Claims Inventive Concepts

This Court need not reach step two of the *Alice* test given that the '582 Patent is not directed

to an abstract idea. Regardless, the asserted claims of the '582 Patent are directed to an inventive

concept that render them patent eligible. Specifically, the '582 Patent asserted claims are directed

to parallelization of data processing tasks by partitioning input files, distributing descriptions of

the partitions, and executing subtasks on the partitions to produce output that is combined,

improving on then-current technology by increasing the speed of execution of processes and

balancing the loads of computer resources during execution. *See* Section III.B.1, *supra*.

As with the '844 Patent, the improvements described in the '582 Patent specification and

carried out by the limitations of the claims render the '582 Patent claims eligible under step two.

See CosmoKey, 15 F.4th at 1098-1099 (technical improvements render a claim eligible at step

two). Additionally, Southwest's arguments regarding the supposed conventionality of the '582

Patent fail for the same reasons its arguments regarding the '844 Patent fail. As explained above,

the patents in *Content Extract* and *Symantec* failed to claim any specific improvements over prior

art methods, unlike the '582 Patent. *See supra* at n. 2.

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[5] The court also rejected the defendant's arguments that the "claimed computer components and
the way they interact with each other are merely 'generic' and 'employed in the conventional
manner'" where nothing in the record showed this to be the case, much as Southwest's arguments
regarding the supposed conventionality of the '582 Patent claims is based on nothing in the
specification or record. *See Altair Logix*, 2021 WL 6424910, at *5.

Southwest also ignores that the '582 Patent itself explains how the performance of the ordered combination of the limitations of the claims results in a technological improvement, focusing instead on claim 1's supposed combination of "conventional steps in a predictable manner." Mot. at 11. But Southwest fails to provide any basis for its assertion that these steps are conventional.[6] Its references to the specification (*id.,* citing '582 Patent, 3:35-4:15, 4:59-63), do not establish that the techniques of the '582 Patent were "standard" at the time and cannot provide a basis for dismissal under § 101 at this stage of the case. *See Ravgen*, 2024 WL 150960, at *2. Southwest's arguments regarding the "conventional" nature of the limitations or order combination of the claims suggest, at most, a fact dispute that cannot be resolved on the pleadings. *See Aatrix Software and Cooperative Ent., supra*; *Berkheimer*, 881 F.3d at 1369 ("The improvements in the specification, to the extent they are captured in the claims, create a factual dispute regarding whether the invention describes well-understood, routine, and conventional activities.").

C.   IV's Direct Infringement Claims for the Cloud Patents are Plausible.

1.   IV Has Provided Southwest Sufficient Notice of Infringement.

IV has pleaded sufficient facts of Southwest's direct infringement for each of the Cloud Patents. Specifically, IV alleges that Southwest systems and services that use: (i) Docker infringe at least claim 7 of the '844 Patent; (ii) Kafka infringe at least claim 14 of the '722 Patent; (iii) Kubernetes infringe at least claim 30 of the '785 Patent; and (iv) Spark or Hadoop infringe at least claim 1 of the '582 Patent. Dkts. 1-8 at 2; 1-9 at 2; 1-10 at 2; 1-13 at 2; 1-14 at 2. To support its contentions, IV incorporated element-by-element claim charts into the Complaint that provide

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[6] The Court should also reject Southwest's disguised enablement argument regarding the steps of claim 1 of the '582 Patent. *See supra* at n. 3. As the Federal Circuit explained, "the implementation details of [a claim step] may well fall within the routine knowledge of one of ordinary skill in the art, and a patent need not teach, and preferably omits, what is well known in the art." *Visual Memory*, 867 F.3d at 1261 (internal quotation marks omitted).

factual details, including publicly available evidence from the entities that maintain those technologies, as to why Southwest's use of those technologies infringe IV's Cloud Patents. *See generally id.*

For the Cloud Patents, Southwest appears to understand that IV accuses its use of Kubernetes, Kafka, Docker, Spark, and Hadoop technologies of infringement. *See generally* Mot. at 11-15. However, it still argues that it "cannot reasonably ascertain what specific systems or services are actually accused of infringing" the Cloud Patents. Mot. at 14. But IV provided precisely such notice—Southwest's products and services *that use any of Kubernetes, Kafka, Docker, Spark, and Hadoop technologies. See generally* Dkts. 1-8; 1-9; 1-10; 1-13; 1-14; *see also AlexSam, Inc. v. Aetna, Inc.*, 119 F.4th 27, 35 (Fed. Cir. 2024) ("it is enough that a complaint place the alleged infringer on notice of what activity … is being accused of infringement"). Quite simply, if a Southwest product or service does not use those technologies, it is not accused. Indeed, Southwest does not—because it cannot—argue that it does not use those technologies. IV has further provided claim charts that compare documents created by the entities that maintain the accused technologies to each element of the respective exemplary claims of the Cloud Patents. *See generally* Dkts. 1-8; 1-9; 1-10; 1-13; 1-14. Thus, Southwest's arguments that IV's contentions are "vague and broad" are wrong.

Southwest suggests that IV has not presented "actual use" of the accused cloud technologies (Mot. at 12), but IV has provided unrebutted proof of Southwest's use of the accused technologies. For example, for each accused technology, IV has identified *Southwest engineers who work on each respective technology. See, e.g.*, Dkt. 1-8 at 2 (identifying LinkedIn profile of Southwest "senior DevOps Engineer" employee "listing usage of Docker"); *see also* Dkts. 1-9 at 2; 1-10 at 2; 1-13 at 2; 1-14 at 2. Unable to rebut this evidence, Southwest simply ignores it.

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The cases on which Southwest relies (Mot. at 14) do not support it. In *Addiction and Detoxification Institute LLC v. Carpenter*, 620 Fed Appx. 934 (Fed. Cir. 2015), the Federal Circuit found that the plaintiff's statement that the defendant's making, selling, and using of "electric motors," without more details, did not satisfy its pleading burden. *Id*. at 936("[i]t is not enough to say 'you infringe my patent' [and] that is all that is alleged in [plaintiff's] complaint."). Here, IV has gone well beyond what plaintiff did in *Carpenter* by providing detailed claim charts, incorporated into the Complaint, that include an element-by-element analysis with supporting descriptions and citations to evidence, including relevant portions highlighted in support of its contentions that Southwest infringes one or more claims of its Cloud Patents. *WirelessWerx IP LLC v. OnStar, LLC*, No. 2:23-cv-11501-MAG-APP, 2024 WL 1607018 (E.D. Mich. Apr. 12, 2024) also is inapposite because IV has "plausibly demonstrate[ed] actual use by [Southwest]" of the accused technologies, which Southwest does not even attempt to rebut. *See generally* Mot. at 11-18. IV has identified Southwest's use of Kubernetes, Docker, Spark, Hadoop, and Kafka technologies as infringing instrumentalities, identified evidence of Southwest's use of those technologies and provided evidence of how those technologies infringe in the claim charts attached to the Complaint. In *OnStar*, by contrast, plaintiff merely accused all OnStar products of infringement and included analysis of a non-party application without "offer[ing] any explanation of the relationship between OnStar and [the third-party and its application]." *Id*. at *6. And *Celgard, LLC v. Shenzhen Senior Tech. Material Co. (US) Research Inst.*, No. 19-cv-05784-JST, 2020 WL 7392909 (N.D. Cal. July 23, 2020) is inapplicable because the specific products and services that use the accused technologies are not publicly known. *See Celanese Int'l Corp. v. Anhui Jinhe Indus. Co., Ltd.*, No. 20-1775-LPS, 2021 WL 7209494, at *4 (D. Del. Dec. 10, 2021) ("Plaintiffs cannot be charged with knowing, at the time they drafted their Complaint, non-public

information they could only obtain after filing suit and obtaining discovery") (*citing BioMérieux, S.A. v. Hologic, Inc.*, No. 18-21-LPS, 2018 WL 4603267, at *4 (D. Del. Sept. 25, 2018). "[Southwest] cannot shield itself from a complaint ... by operating in such secrecy that the filing of a complaint itself is impossible." *Raytheon Co. v. Cray, Inc.*, No. 2:16-CV-00423-JRG-RSP, 2017 WL 1362700, at *4 (E.D. Tex. Mar. 13, 2017), citing *K-Tech Telecommunications, Inc. v. Time Warner Cable, Inc.*, 714 F.3d 1277, 1286 (Fed. Cir. 2013). The accused technologies are cloud technologies, and software and hardware needed to support such software is generally non-public information, and it is IV's understanding that Southwest does not make this type of information public. Thus, Southwest's demand that IV identify all products and services that use the accused technologies, despite providing proof of Southwest's use of the accused technologies, when this information is solely within Southwest's possession, places a burden on IV well beyond its pleading requirements.

2.   IV Has Pled Plausible Infringement of Non-Licensed Clouds.

Southwest appears to argue that IV "cannot move forward with costly litigation before satisfying the plausibility standard" because IV has acknowledged that certain uses of the accused technologies may be licensed. Mot. at 16. IV alleges that Southwest infringes each of the Cloud Patents based on its use of cloud-based technologies, including Kubernetes, Spark, Hadoop, Kafka, and Docker (*see, e.g.*, Dkt. 1 at ¶¶ 25, 39, 55, 71, 119), and expressly incorporated factual allegations made in claim charts attached to the Complaint. *Id*. at ¶¶ 50, 66, 82, 130. Each of those claim charts identify specific evidence that Southwest uses non-licensed clouds, such as for example private clouds, in supporting its cloud-based technologies. *See*, *e.g.*, Dkt. 1-9 at 2 ("Southwest has stated that it is investing in cloud technology and has 'moved about 50% of its technology' to the [public] cloud and has indicated cloud migration is one of its areas of focus for 2024 and beyond"); *see also* Dkt. 1-10 at 2; Dkt. 1-13 at 2; Dkt. 1-14 at 2; Dkt. 1-8 at 2. That is

sufficient at the pleading stage. *See AlexSam*, 119 F.4th at 35 ("an adequate complaint need only contain 'some factual allegations that, when taken as true, articulate why it is plausible that the accused product infringes the patent claim'") (citation omitted). Southwest ignores IV's supporting evidence and its argument should be rejected.

3. IV Has Pled Sufficient Facts to Support its Contentions that Southwest Infringes At Least Claim 7 of the '844 Patent.

Southwest argues that IV has not pled sufficient facts to support its infringement contentions for claim 7 of the '844 Patent, based on a vague, unstated claim construction position. Southwest's argument here (based on an implicit claim construction) should be rejected. *See Nalco Co. v. Chem-Mod, LLC*, 883 F.3d 1337, 1347-50 (Fed. Cir. 2018) ("Resolution of that dispute, even if part of the record that can be considered, is particularly inappropriate in the Rule 12(b)(6) context. … It is not appropriate to resolve these disputes, or to determine whether the method claimed … should be confined to the preferred embodiment, on a Rule 12(b)(6) motion, without the benefit of claim construction."). Claim 7 recites in part "said leaf images including only additional data blocks not previously contained in said root image and changes made by respective compute nodes to the blocks of the root image." Dkt. 1-1 at 11:32-35. Southwest argues that infringement allegations relating to copying a "file" practices the portion of this limitation that recites "data blocks" is deficient based on some implied claim construction position.

Neither of the cases Southwest cites (Mot. at 17-18) involved the '844 Patent. Southwest cites *Veritas Techs. LLC v. Veeam Software Corp.*, 835 F.3d 1406, 1410 (Fed. Cir. 2016), for the proposition that "a person having ordinary skill in the art would understand that … blocks often make up a file." Mot. at 17. Southwest offers nothing more than the *ipse dixit* of its counsel to explain what the relevant art is and what is the level of ordinary skill in the unexplained art. This argument and vague claim construction position, untethered to the '844 Patent, should be rejected.

Southwest's reliance on *Quanergy Sys., Inc. v. Velodyne Lidar USA, Inc.*, 24 F.4th 1406, fn. 7 (Fed. Cir. 2022) is similarly misplaced. Southwest cites a footnote from the *Quanergy* decision that reads "[a] file is essentially a named collection of blocks, which contain all of the data of the file." Mot. at 17-18. But claim 7 does not recite the language "file," and *Quanergy* involved a different patent involving different technology, with a different claim term being construed (that did not include the language "data blocks"). *See Quanergy*, 24 F.4th at 1415 (discussing a PTAB construction of the limitation "starting a restore of a set of files").

Southwest does not (apparently because it cannot) cite any authority for construing a claim term separate and apart from the patent itself. Further, claim 7 recites "*data* blocks," not just blocks. Moreover, Southwest fails to consider all the evidence cited in support of IV's Complaint. *See* Dkt. 1-8 at 20-25. And Southwest entirely mischaracterizes IV's infringement allegations by citing to evidence from a *different* claim limitation. *See* Mot. at 17 (citing to Dkt. 1-9 at 27 and 29, which relates to a different claim limitation: "wherein said leaf images of respective computer nodes do not include blocks of said root image that are unchanged by respective computer nodes").

D.   IV's Indirect Infringement Claims for the Cloud Patents are Plausible.

IV has sufficiently pled pre-and post-suit indirect infringement. Moreover, Southwest has not complied with this Court's procedures for dismissing indirect infringement claims before fact discovery. OGP VII at 6. No meet and confer was undertaken. Even putting aside this issue confirmed by no meet and confer certification, to establish indirect infringement, there must be a showing of induced or contributory infringement. 35 U.S.C. §§ 271(b)–(c). Both types of infringement require that the accused infringer had actual knowledge or was willfully blind to the existence of the patents-in-suit. *Neonode Smartphone LLC v. Samsung Electronics Co., Ltd.*, No. 6:20-cv-00507-ADA, 2023 WL 5426743, at *2 (W.D. Tex. June 27, 2023). For induced infringement, a plaintiff must plead that the defendant: (1) had actual knowledge of the patent;

(2) knowingly induced a third-party to infringe the patent; and (3) had the specific intent to induce infringement. *Id*.

IV has sufficiently pled these elements. Specifically, Southwest has had notice of its infringement of the Cloud Patents since no later than November 1, 2024. Dkt. 1 at ¶¶ 44, 60, 76, 124.[7] Further, IV identified third parties, including Southwest's partners, vendors, and customers, that on information and belief Southwest causes to infringe one or more claims of the Cloud Patents. Dkt. 1 at ¶¶ 45-47, 61-63, 77-79, 125-27. As to intent, IV has identified evidence of Southwest's use of the accused technologies for certain products and services and noted that "Southwest offers products and services to its customers and third parties and/or employees that are associated with backend functionality" that hosts the accused technologies. Dkt. 1 at ¶¶ 45, 61, 77, 125; Dkt. 1-8 at 2-3; Dkt. 1-9 at 2-3; Dkt. 1-10 at 2-3; Dkts. 1-13 and 1-14 at 2-3. IV also plausibly pleads contributory infringement. *Id*.; *see also* Dkt. 1 at ¶¶ 47, 63, 59, 127.

Southwest argues erroneously that IV has failed to identify Southwest products or services. Mot. at 19. *See supra*, Section III.C.1. Further, the accused technologies are cloud-based technologies and Southwest does not appear to publicly disclose how it uses these technologies, including disclosing what of its products and services specifically use them. *See Bell Semiconductor, LLC v. MaxLinear, Inc.*, No. 22-cv-1268-H-KSC, 2023 WL 174973, at *6 (S.D. Cal. Jan. 12, 2023) ("But reverse engineering or review of non-public information is not necessary to put Defendant on notice of the infringement allegations.") (citation omitted); *see also BioMérieux; Rally AG LLC v. Apple, Inc.*, No. 1:23-cv-1106, 2024 WL 4836540, at *10 (D. Del. Nov. 20, 2024) ("Because Plaintiff is not required at the pleadings stage to have full knowledge of

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[7] Southwest alleges that "Plaintiffs also claim Southwest received actual notice via a letter on November 1, 2024 …" Mot. at 18. This date is incorrect, and it is unclear on what basis Southwest makes this assertion, which IV disagrees with.

how [the accused product] works, these well-pleaded allegations drawn from Plaintiff's

'information and belief' are sufficient for Plaintiff's infringement claim to survive a motion to

dismiss."); *DermaFocus LLC v. Ulthera, Inc.*, 201 F. Supp. 3d 465, 469, n.7 (D. Del. 2016) ("And,

indeed, it may not be possible for a plaintiff to describe its case-in-chief with particularity at the

outset of litigation, without access to the accused method, the accused apparatus for reverse

engineering, or confidential data such as source code."). IV has sufficiently and plausibly pled

facts supporting its contentions based on publicly available information, which is all that is

required at this stage. *Id*.[8]

IV.   **CONCLUSION**

For the foregoing reasons, Southwest's Motion should be denied in its entirety.

Dated: March 19, 2025   RESPECTFULLY SUBMITTED,

                                        By: */s/ Jonathan K. Waldrop*
                                            Jonathan K. Waldrop (CA Bar No. 297903)
                                            (Admitted in this District)
                                            jwaldrop@kasowitz.com
                                            Darcy L. Jones (CA Bar No. 309474)
                                            (Admitted in this District)
                                            djones@kasowitz.com
                                            Marcus A. Barber (CA Bar No. 307361)
                                            (Admitted in this District)
                                            mbarber@kasowitz.com
                                            John W. Downing (CA Bar No. 252850)
                                            (Admitted in this District)
                                            jdowning@kasowitz.com

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[8] To the extent the Court decides that IV must provide more definite statements, IV respectfully requests leave to amend its Complaint. *See Alvao Digital LLC v. C3 Presents, LLC*, No. 6:21-cv-1208-ADA, 2022 WL 22869793, at *3-4 (W.D. Tex. Sep. 26, 2022) (leave to amend should be freely permitted to plead deficient allegations in a further amended complaint).

Heather S. Kim (CA Bar No. 277686)
(Admitted in this District)
hkim@kasowitz.com
ThucMinh Nguyen (CA Bar No. 304382)
(Admitted in this District)
tnguyen@kasowitz.com
Jonathan H. Hicks (CA Bar No. 274634)
(Admitted in this District)
jhicks@kasowitz.com
KASOWITZ BENSON TORRES LLP
333 Twin Dolphin Drive, Suite 200
Redwood Shores, California 94065
Telephone: (650) 453-5170
Facsimile: (650) 453-5171

Mark D. Siegmund (TX Bar No. 24117055)
msiegmund@cjsjlaw.com
Cherry Johnson Siegmund James PLLC
7901 Fish Pond Rd., 2nd Floor
Waco, Texas 76710
Telephone: 254-732-2242
Facsimile: 866-627-3509

<u>CERTIFICATE OF SERVICE</u>

The undersigned certifies that a copy of the foregoing document was served on all parties

who have appeared in this case on March 19, 2025, via the Court's CM/ECF system.

/s/ Jonathan K. Waldrop
Jonathan K. Waldrop (CA Bar No. 297903)